Claims

What is claimed is:

1. A polynucleotide molecule comprising at least one gene of interest, and at least one selectable marker gene, wherein said at least one selectable marker gene comprises a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding SEQ ID NOS.: 3, 4, or 5, or functional fragments thereof; or a complement of said nucleotide sequence; and

(b) a nucleotide sequence which selectively hybridizes under stringent conditions to a nucleotide sequence shown in SEQ ID NOS: 1 or 2, or a complement thereof.

2. The polynucleotide molecule of claim 1, wherein said polynucleotide is operably linked to a promoter.

3. Transgenic cells transformed with a gene of interest and the polynucleotide molecule of claim 1, wherein the selectable marker gene gives said cells a selective advantage when a population of cells including the transformed cells and nontransformed cells is supplied with a marker compound.

4. The transgenic cells of claim 3 wherein said marker compound is arabitol, ribitol, mannitol or a derivative thereof.

5. The transgenic cells of claim 3, wherein said transgenic cells comprise bacteria, fungi, yeast, plant or a combination thereof.

6. A Plant or plant tissue regenerated from the cells of claim 3.

7. A method of selecting transformed cells from a population of cells comprising

a) introducing into the genome of a cell a gene of interest and a selectable marker gene;

b) obtaining transformed cells;

c) supplying to the population of cells a marker compound wherein said transformed cells have a selective advantage over non-transformed cells due to expression or transcription of the gene of interest or the selectable marker gene in the presence of the marker compound; and

d) selecting said transformed cells from the population of cells;

wherein said selectable marker gene comprises a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding SEQ ID NOS.: 3, 4, or 5, or functional fragments thereof; or a complement of said nucleotide sequence; and

(b) a nucleotide sequence which selectively hybridizes under stringent conditions to a nucleotide sequence shown in SEQ ID NOS: 1 or 2, or a complement thereof;

and said marker compound comprises arabitol, ribitol, mannitol or a derivative thereof.

8. The method of claim 7, wherein said cells comprise bacteria, fungi, yeast, plant or a combination thereof.

9. The method of claim 8, wherein said cells comprise plant cells.

10. Transformed cells selected according to the method of claim 7.

11. Transformed plants derived from the cells of claim 10.

12. Seeds produced from the transformed plants of claim 11, wherein said seeds are capable of germinating to produce transformed plants.

13. A polynucleotide molecule comprising a nucleotide sequence selected from the group consisting of:

(a) a nucleotide sequence encoding SEQ ID NOS.: 3, 4, or 5, or functional fragments thereof; or a complement of said nucleotide sequence; and

(b) a nucleotide sequence which selectively hybridizes under stringent conditions to a nucleotide sequence shown in SEQ ID NOS: 1 or 2, or a complement thereof.

14. The polynucleotide molecule of claim 13, wherein said nucleotide sequence comprises SEQ ID NO 1.

15. The polynucleotide molecule of claim 13, wherein said nucleotide sequence comprises SEQ ID NO 2.

16. A polypeptide molecule comprising SEQ ID NO 3, or functional fragments thereof.

17. A polypeptide molecule comprising SEQ ID NO 4, or functional fragments thereof.

18. A polypeptide molecule comprising SEQ ID NO 5, or functional fragments thereof.